M E M O R A N D U M

TO: DIVISION OF WATER POLLUTION CONTROL - Field Operations Section

FROM: Larry L. Bishop - Region V

SUBJECT: PERRY COUNTY - Fidelity Mine #11
United Electric Coal Companies
Mine Drainage

DATE: September 13, 1974

On the above date, I made an investigation of the United Electric Coal Companies Mine #11, located approximately five miles west of Du Quoin in Perry County. On the date of this investigation, I was accompanied by Mr. Paul Siestrom, Land Reclamation Manager, for United Electric Coal Companies. There was a heavy rain prior to and during the investigation. We first discussed the need for an NPDES Permit in Mr. Siestrom's office before making the field inspection. Mr. Siestrom reported that he has had some trouble with the NPDES Permit program. Further discussion of the NPDES Permit revealed that the problem was encountered when Mr. Siestrom misnamed a creek on the permit application.

The field investigation began at Panther Creek as it flows under a blacktop road in the (NW¼)(NW¼), Sec. 9, T6S, R2W, 3 P.M. Any pump discharge or wet weather discharge from the active mining operation would flow through this sampling point. The creek at this location was turbid and had a brown color. The creek appeared to be normal, considering the weather conditions. Flow was estimated to be high on this date. Laboratory analysis of the sample collected at this location is listed below:

LAB. #A104697

Iron (Total)	1.8 mg/1	pH	8.0
Manganese	0.2 mg/1	Alkalinity	14 mg/1
Sulfate	1100 mg/1	Total Acidity	10 mg/1
R.O.E.	2038 mg/1	Suspended Solids	160 mg/1

We then returned to the entrance road to the active mining operation and drove south. Along the west edge of the haulage road and north of Route 152, I observed a wet weather drainage, estimated to be 25 gpm. The haulage road was at one time a gob road and has since been covered with white rock. A sample was collected at this location in the north half of Section 16, T6S, R2W, for informational purposes. The water in the drainage course was brown and turbid. Flow was estimated at 25 gpm. Laboratory analyses of the sample collected is listed as follows:

LAB. #A104698

Iron (Total)	112 mg/1	pH	4.1
Manganese	1.19 mg/1	Alkalinity	0 mg/1
Sulfate	1500 mg/1	Total Acidity	84 mg/1
R.O.E.	2130 mg/1	Suspended Solids	764 mg/1

We then crossed Route 152 and continued to drive south to the alternate gob site for the Fidelity Mine #11. The gob site is located in or near the NW¼ of Section 22, T6S, R2W, 3 P.M. The alternate gob site is located approximately 3/4 mile northeast of the preparation plant. The main gob site, which is the active pit, is located approximately 4 miles northeast of the preparation plant. There did appear to be an excessive amount of refuse disposal in the alternate site. On the day of this inspection, gob was being hauled back to the alternate site, due to weather conditions. Mr. Siestrom explained that if the refuse is dumped back in the active pit during wet weather conditions, it causes the spoil to slide into the pit. This particular excuse has been given by Mr. Siestrom for excessive use of alternate gob sites at both the Fidelity and Banner Mines. The excuse of the spoils sliding back into the pit has not been given by any other coal company, to my knowledge. I also observed the alternate site was being covered with approximately 4 to 5 feet of overburden material as the area was being filled in. There was an area only large enough to be considered a working area, exposed at the alternate site.

We then proceeded to the United Electric Coal Companies' Beaucoup Creek discharge, which is located on the Route 13 bridge south of the mine. This discharge includes any drainage other than the Barber outlet discharge point and the Lake of the Pines discharge point. On the day of this visit, the water was turbid and had a brown color which would be normal under wet weather conditions. Also, flow was considered to be very high. Laboratory analysis of the sample collected is listed below:

LAB. #A104699

Iron (Total)	2.4 mg/1	pH	7.6
Manganese	0.38 mg/1	Alkalinity	6 mg/1
Sulfate	190 mg/1	Total Acidity	2 mg/1
TS/EC	370 mg/1	Suspended Solids	388 mg/1

We then drove east from the Beaucoup Creek discharge point along Route 13 to the Barber Saw Mill. I walked east from this location to the Barber outlet discharge point and collected a sample. The water in the stream at this point was turbid and had a light gray color. Again, the flow was considered to be very high at this time. Laboratory analysis of the sample collected is listed as follows:

PERRY COUNTY - Fidelity Mine #11
United Electric Coal Companies
Mine Drainage

LAB. #A104700

Iron (Total)	1.3 mg/l	Suspended Solids	56 mg/l
Manganese	2.12 mg/l	pH	7.4
Sulfate	1500 mg/l	Alkalinity	2 mg/l
R.O.E.	2350 mg/l	Total Acidity	2 mg/l

The next sample collected was that of the Lake of the Pines discharge point, which is located approximately 3/4 to 1 mile west of the Barber outlet discharge point along Route 13. At this location, the water was slightly turbid, but did appear normal for the weather conditions. Flow was estimated to be high on this date. Laboratory analysis of the sample collected is listed below:

LAB. #A104701

Iron (Total)	0.4 mg/l	Suspended Solids	28 mg/l
Manganese	0.63 mg/l	pH	7.5
Sulfate	1300 mg/l	Alkalinity	4 mg/l
R.O.E.	2100 mg/l	Total Acidity	1 mg/l

From this location, we drove northeast along the southern boundaries of the mine. I did observe a discharge coming from the mine property, in which a portion of the orchard is located for the Fidelity Farms and observed a discharge that had a light amber color. The stream bed at this location appeared to be normal. The flow was a wet weather discharge estimated to be 100 gpm. A field investigation showed that the discharge was originating from the orchard area. Several spots of amber colored water were observed at this location. Laboratory analysis of the sample collected is listed below:

LAB. #A104702

Iron (Total)	0.2 mg/l	Suspended Solids	7 mg/l
Manganese	0.00 mg/l	pH	6.4
Sulfate	14 mg/l	Alkalinity	0 mg/l
R.O.E.	1850 mg/l	Total Acidity	2 mg/l

Mr. Siestrom stated that the above discharge was only from the orchard area and the area had not been mined and would not be mined for approximately two years. The analysis of the sample collected indicated the water was near an acceptable quality. The discoloration or amber color of the water was not readily explainable at this time.

We then proceeded to the preparation plant and contacted the Mine Superintendent, Al Seiling. At this time, I discussed with Mr. Seiling and Mr. Siestrom, the correction of a spillage discharge originating from the preparation plant water circuit. At one

time the spillage from the preparation plant flowed along the railroad track and entered a series of pits that did overflow into Panther Creek. Mr. Siestrom had discussed with me the need for obtaining an NPDES Permit for this discharge, since the preparation plant spillage did enter the system. It was decided that due to the nature of the discharge, it was likely this discharge would require an NPDES Permit. Mr. Seiling stated he had done some work to correct the spillage and the discharge was no longer entering the Panther Creek area. A field inspection showed the spillage from the preparation plant is now directed into an abandoned portion of the old preparation plant where it is collected in a sump. The water is then pumped back into the fresh water lake to be recycled. The discharge from the preparation plant is directed north down the railroad track and into the basement of the old preparation plant.

I then continued the investigation of this area and observed there is drainage from the mine yard area, but it is not associated with the spillage from the preparation plant. The drainage is only a wet weather drainage and was sampled for informational purposes. The sample was collected approximately 150 ft. north of the preparation plant. The drainage water was turbid and had a blackish-gray appearance. Flow was estimated to be 15 gpm. Laboratory analysis of the sample collected is listed below:

LAB. #A104703

Iron (Total)	5.3 mg/1	Suspended Solids	950 mg/1
Manganese	0.18 mg/1	pH	7.9
Sulfate	1000 mg/1	Alkalinity	85 mg/1
TS/EC	1470 mg/1	Total Acidity	0 mg/1

Mr. Siestrom and I then concluded the investigation by driving to a point northwest of the preparation plant. In this general location, along the haulage road, spoil pits overflow into Panther Creek. This overflow was the point that the preparation plant spillage did discharge at one time. The discharge through this sampling point had a slightly turbid appearance, but seemed normal for the weather conditions. Flow was considered high on this date. Laboratory analysis of the sample collected is listed below:

LAB. #A104704

Iron (Total)	0.6 mg/1	pH	7.4
Manganese	3.0 mg/1		
R.O.E.	3380 mg/1		
Suspended Solids	10 mg/1		

PERRY COUNTY - Fidelity Mine #11
United Electric Coal Companies
Mine Drainage

To the date of the writing of this report, the final NPDES Permit for the United Electric Coal Companies discharge point has not been issued. When the permits are issued, investigations will be made to determine the exact standing of the coal company with the compliance schedules of the said permit.

Larry L. Bishop
Environmental Protection Specialist

LLB:mgg
10/15/74

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

(1)

SPECIAL ANALYSIS FORM

Time Collected 11:00 A.M. Sub-Basin REGION 5

Date Collected SEPT 13, 1974 Collector LARRY L. BISHOP

Facility Name: FIDELITY #11 Facility Number: File Town PERRY COUNTY

Stream Name(s) BIG MUDDY, BEAUCOUP, PANTHER Stream Code: NCO

Source of Sample: (Exact Location) PANTHER CREEK in the NW¼; NW¼ sec 9 T6S, R2W, 3P.M.

Physical Observations, Remarks: water turbid and brown-color, appeared normal for weather conditions

Flow high	Field Dissolved Oxygen	Field pH	Field Temp.

Arsenic	Coliform/100ml	BOD
Barium	Fecal Coliform 100 ml	COD
Boron	Fecal Strep 100 ml	2038 TS/EC ROE
Cadmium	Algae (Total) /ml	160 Susp. Solids
Copper	Ammonia (N)	Vol. Susp. Solids
Chromium (tri)	Organic Nitrogen (N)	8.0 pH (units)
Chromium (hex)	Nitrate + Nitrite(N)	Turbidity (JTU)
1.8 Iron (Total)	Phosphorus (P)	Hardness
Iron (Dissolved)	Chloride	14 Alkalinity
Lead	Fluoride	10 Total Acidity
0.2 Manganese	1100 Sulfate	Free Acidity
Mercury (ppb)	Cyanide	Oil
Nickel	MBAS	Other (Specify)
Selenium	Phenol (ppb)	
Silver		
Zinc		

Results in mg/l unless otherwise noted.

100% Recycled Paper

Transported by: Larry L Bishop

Received by:

Transported by:

Received by:

Preservation Standards

☑ Yes

☐ No

FOR LAB USE ONLY

Lab Number: A10463 Rec'd by: Frank Lorenz

Date sample rec'd: SEP 13 1974 Time: 5:00

Date analysis completed: 9/25/74

Date results forwarded: SEP 27 1974

Total Tests requested: 8 Tests run: 9

Lab Section: Supervisor:

3/73

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL (2)

SPECIAL ANALYSIS FORM

Time Collected 11:15 A.M. Sub-Basin REGION 5

Date Collected SEPT 13, 1974 Collector LARRY L. BISHOP

Facility Name: FIDELITY. #11 Facility Number: File Town PERRY COUNTY

Stream Name(s) BIG MUDDY, BEAUCOUP, PANTHER Stream Code: NCO

Source of Sample: (Exact Location) wet weather drainage along the west side of the haul road in the NE¼ of Sec. 16, T6S, R2W 3.P.M.

Physical Observations, Remarks: water brown and turbid

Flow ~ 25 gpm	Field Dissolved Oxygen	Field pH	Field Temp.

Arsenic	Coliform/100ml	BOD
Barium	Fecal Coliform 100 ml	COD
Boron	Fecal Strep 100 ml	2130 TS/EC ROE
Cadmium	Algae (Total) /ml	764 Susp. Solids
Copper	Ammonia (N)	Vol. Susp. Solids
Chromium (tri)	Organic Nitrogen (N)	4.1 pH (units)
Chromium (hex)	Nitrate + Nitrite(N)	Turbidity (JTU)
112. Iron (Total)	Phosphorus (P)	Hardness
Iron (Dissolved)	Chloride	0 Alkalinity
Lead	Fluoride	84 Total Acidity
1.19 Manganese	1500 Sulfate	Free Acidity
Mercury (ppb)	Cyanide	Oil
Nickel	MBAS	Other (Specify)
Selenium	Phenol (ppb)	
Silver		
Zinc		

Results in mg/l unless otherwise noted.

100% Recycled Paper. Meets IEPA Preservation Standards
☒ Yes
☐ No

3/73

Transported by: Larry L. Bishop
Received by:
Transported by:
Received by:

FOR LAB USE ONLY
Lab Number: A10168 Rec'd by: Frank
Date sample rec'd: SEP 13 1974 Time: 5:00 P
Date analysis completed: 9/25/74
Date results forwarded: SEP 27 1974
Total Tests requested: 8 Tests run: 8
Lab Section: Supervisor:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

(3)

SPECIAL ANALYSIS FORM

Time Collected 12:30 P.M. Sub-Basin REGION 5

Date Collected SEPT 13, 1974 Collector LARRY L. BISHOP

Facility Name: FIDELITY #11 Facility Number: File Town PERRY COUNTY

Stream Name(s) BIG MUDDY, BEAUCOUP Stream Code: NC

Source of Sample: (Exact Location) BEAUCOUP CREEK at the Rt. 13 bridge

Physical Observations, Remarks: water turbid, brown color.

Flow high	Field Dissolved Oxygen	Field pH	Field Temp.

_____ Arsenic	_____ Coliform/100ml	_____ BOD
_____ Barium	_____ Fecal Coliform 100 ml	_____ COD
_____ Boron	_____ Fecal Strep 100 ml	370 530 TS/EC
_____ Cadmium	_____ Algae (Total) /ml	388 Susp. Solids
_____ Copper	_____ Ammonia (N)	_____ Vol. Susp. Solids
_____ Chromium (tri)	_____ Organic Nitrogen (N)	7.6 pH (units)
_____ Chromium (hex)	_____ Nitrate + Nitrite(N)	_____ Turbidity (JTU)
2.4 Iron (Total)	_____ Phosphorus (P)	_____ Hardness
_____ Iron (Dissolved)	_____ Chloride	6 Alkalinity
_____ Lead	_____ Fluoride	2 Total Acidity
0.38 Manganese	190 Sulfate	_____ Free Acidity
_____ Mercury (ppb)	_____ Cyanide	_____ Oil
_____ Nickel	_____ MBAS	_____ Other (Specify)
_____ Selenium	_____ Phenol (ppb)	
_____ Silver		
_____ Zinc		

Results in mg/l unless otherwise noted.

Transported by: Larry L. Bishop

Received by: _____

Transported by: _____

Received by: _____

FOR LAB USE ONLY

Lab Number: A10469 Rec'd by: Frazel

Date sample rec'd: SEP 13 1974 Time: 5:00

Date analysis completed: 9/25/74

Date results forwarded: SEP 27 1974

Total Tests requested: 8 Tests run: 8

Lab Section: _____ Supervisor: [illegible]

Sample Meets IEPA Preservation Standards

☒ Yes

☐ No

3/73

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

(4)

SPECIAL ANALYSIS FORM

Time Collected 1:45 P.M. Sub-Basin REGION 5

Date Collected SEPT 13, 1974 Collector LARRY L. BISHOP

Facility Name: FIDELITY #11 Facility Number: File Town PERRY COUNTY

Stream Name(s) BIG MUDDY, BEAUCOUP Stream Code: NC

Source of Sample: (Exact Location) BARBARA MILL DISCHARGE AT RT. 13.

Physical Observations, Remarks: water turbid with light gray color.

Flow high	Field Dissolved Oxygen	Field pH	Field Temp.

_____ Arsenic	_____ Coliform/100ml	_____ BOD
_____ Barium	_____ Fecal Coliform 100 ml	_____ COD
_____ Boron	_____ Fecal Strep 100 ml	2350 ~~TS/EC~~ TOE
_____ Cadmium	_____ Algae (Total) /ml	56 Susp. Solids
_____ Copper	_____ Ammonia (N)	_____ Vol. Susp. Solids
_____ Chromium (tri)	_____ Organic Nitrogen (N)	7.4 pH (units)
_____ Chromium (hex)	_____ Nitrate + Nitrite(N)	_____ Turbidity (JTU)
1.3 Iron (Total)	_____ Phosphorus (P)	_____ Hardness
_____ Iron (Dissolved)	_____ Chloride	2 Alkalinity
_____ Lead	_____ Fluoride	2 Total Acidity
2.12 Manganese	1500 Sulfate	_____ Free Acidity
_____ Mercury (ppb)	_____ Cyanide	_____ Oil
_____ Nickel	_____ MBAS	_____ Other (Specify)
_____ Selenium	_____ Phenol (ppb)	
_____ Silver		
_____ Zinc		

Results in mg/l unless otherwise noted.

Sample Meets IEPA Preservation Standards
☒ Yes
☐ No

Transported by: Larry L. Bishop
Received by: _____
Transported by: _____
Received by: _____

FOR LAB USE ONLY

Lab Number: A104700 Rec'd by: Frank Stoneman
Date sample rec'd: SEP 13 1974 Time: 5:00
Date analysis completed: 9/25/74
Date results forwarded: ~~SEP 27 1974~~
Total Tests requested: 8 Tests run:
Lab Section: _____ Supervisor: _____

3/73

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

(5)

SPECIAL ANALYSIS FORM

Time Collected 1:00 P.M. Sub-Basin REGION 5

Date Collected SEPT 13, 1974 Collector LARRY L. BISHOP

Facility Name: FIDELITY #11 Facility Number: File Town PERRY COUNTY

Stream Name(s) BIG MUDDY, BEAUCOUP Stream Code: NC

Source of Sample: (Exact Location) LAKE of the PINES DISCHARGE

Physical Observations, Remarks: water slightly turbid

Flow high	Field Dissolved Oxygen	Field pH	Field Temp.

Arsenic	Coliform/100ml	BOD
Barium	Fecal Coliform 100 ml	COD
Boron	Fecal Strep 100 ml	2100 ~~TS/EC~~ POE
Cadmium	Algae (Total) /ml	28 Susp.Solids
Copper	Ammonia (N)	Vol.Susp.Solids
Chromium (tri)	Organic Nitrogen (N)	7.5 pH (units)
Chromium (hex)	Nitrate + Nitrite(N)	Turbidity (JTU)
0.4 Iron (Total)	Phosphorus (P)	Hardness
Iron (Dissolved)	Chloride	4 Alkalinity
Lead	Fluoride	1 Total Acidity
0.63 Manganese	1300 Sulfate	Free Acidity
Mercury (ppb)	Cyanide	Oil
Nickel	MBAS	Other (Specify)
Selenium	Phenol (ppb)	
Silver		
Zinc		

Results in mg/l unless otherwise noted,

Meets IEPA Regulation Standards

X Yes

☐ No

Transported by: Larry L. Bishop

Received by:

Transported by:

Received by:

FOR LAB USE ONLY

Lab Number: A10470i Rec'd by Frank

Date sample rec'd: SEP 13 1974 Time: 5:00

Date analysis completed: 9/25/74

Date results forwarded: SEP 27 1974

Total Tests requested: 8 Tests run:

Lab Section: Supervisor: John C

3/73

SPECIAL ANALYSIS FORM

Time Collected 1:30 P.M. Sub-Basin REGION 5

Date Collected SEPT 13, 1974 Collector LARRY L. BISHOP

Facility Name: FIDELITY #11 Facility Number: File Town PERRY COUNTY

Stream Name(s) BIG MUDDY, BEAUCOUP Stream Code: NC

Source of Sample: (Exact Location) SW¼ Sec 22 from orchard area

Physical Observations, Remarks: water had a light amber color. bedrock

Flow ~1000 gpm	Field Dissolved Oxygen	Field pH	Field Temp.

Arsenic	Coliform/100ml	BOD
Barium	Fecal Coliform 100 ml	COD
Boron	Fecal Strep 100 ml	1850 (FS/EC) POE
Cadmium	Algae (Total) /ml	187 Susp. Solids
Copper	Ammonia (N)	Vol. Susp. Solids
Chromium (tri)	Organic Nitrogen (N)	6.4 pH (units)
Chromium (hex)	Nitrate + Nitrite(N)	Turbidity (JTU)
0.2 Iron (Total)	Phosphorus (P)	Hardness
Iron (Dissolved)	Chloride	0 Alkalinity
Lead	Fluoride	2 Total Acidity
0.00 Manganese	14 Sulfate	Free Acidity
Mercury (ppb)	Cyanide	Oil
Nickel	MBAS	Other (Specify)
Selenium	Phenol (ppb)	
Silver		
Zinc		

Results in mg/l unless otherwise noted.

Submit to IEPA Pretreatment Standards: ☒ Yes ☐ No

Transported by: Larry L. Bishop
Received by:
Transported by:
Received by:

FOR LAB USE ONLY Frank

Lab Number: A104702 Rec'd by

Date sample received: SEP 13 1974 Time: 5:00

Date analysis completed: 9/25/74

Date results forwarded: SEP 27 1974

Total Tests requested: 8 Tests run:

Lab Section: Supervisor: John

3/73

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

SPECIAL ANALYSIS FORM

Time Collected 2:30 P.M. Sub-Basin REGION 5

Date Collected SEPT 13, 1974 Collector LARRY L. BISHOP

Facility Name: Facility Number: File Town

FIDELITY #11 PERRY COUNTY

Stream Name(s) BIG MUDDY, BEAUCOUP, PANTHER Stream Code: NCG

Source of Sample: (Exact Location) Drainage from west end of prep. plant.

Physical Observations, Remarks: water turbid, black-gray color.

Flow ~15gpm	Field Dissolved Oxygen	Field pH	Field Temp.

	Arsenic		Coliform/100ml		BOD
	Barium		Fecal Coliform 100 ml		COD
	Boron		Fecal Strep 100 ml	1470	TS/EC
	Cadmium		Algae (Total) /ml	350	Susp.Solids
	Copper		Ammonia (N)		Vol.Susp.Solids
	Chromium (tri)		Organic Nitrogen (N)	7.9	pH (units)
	Chromium (hex)		Nitrate + Nitrite(N)		Turbidity (JTU)
5.3	Iron (Total)		Phosphorus (P)		Hardness
	Iron (Dissolved)		Chloride	85	Alkalinity
	Lead		Fluoride	0	Total Acidity
0.18	Manganese	1000	Sulfate		Free Acidity
	Mercury (ppb)		Cyanide		Oil
	Nickel		MBAS		Other (Specify)
	Selenium		Phenol (ppb)		
	Silver				
	Zinc				

Results in mg/l unless otherwise noted.

Transported by: Larry L. Bishop
Received by:
Transported by:
Received by:

FOR LAB USE ONLY
Lab Number A104703 Rec'd by
Date sample rec'd SEP 13 1974 Time: 5:0
Date analysis completed: 9/25/74
Date results forwarded: SEP 27 197
Total Tests requested: 8 Tests run
Lab Section: Supervisor

3/73

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL 8

SPECIAL ANALYSIS FORM

Time Collected 1:45 P.M. Sub-Basin REGION 5

Date Collected SEPT 13, 1974 Collector LARRY L. BISHOP

Facility Name: FIDELITY #11 Facility Number: File Town PERRY COUNTY

Stream Name(s) BIG MUDDY, BEAUCOUP, PANTHER Stream Code: NC6

Source of Sample: (Exact Location) overflow from the spoil pile near the prep plant.

Physical Observations, Remarks: water slightly turbid

Flow high.	Field Dissolved Oxygen	Field pH	Field Temp.

_____ Arsenic	_____ Coliform/100ml	_____ BOD
_____ Barium	_____ Fecal Coliform 100 ml	_____ COD
_____ Boron	_____ Fecal Strep 100 ml	3380 ~~MS/EC~~ POL
_____ Cadmium	_____ Algae (Total) /ml	10 Susp.Solids
_____ Copper	_____ Ammonia (N)	_____ Vol.Susp.Solids
_____ Chromium (tri)	_____ Organic Nitrogen (N)	7.4 pH (units)
_____ Chromium (hex)	_____ Nitrate + Nitrite(N)	_____ Turbidity (JTU)
0.6 Iron (Total)	_____ Phosphorus (P)	_____ Hardness
_____ Iron (Dissolved)	_____ Chloride	Insuf. Alkalinity
_____ Lead	_____ Fluoride	Sample Total Acidity
3.0 Manganese	No Sample Sulfate	_____ Free Acidity
_____ Mercury (ppb)	_____ Cyanide	_____ Oil
_____ Nickel	_____ MBAS	_____ Other (Specify)
_____ Selenium	_____ Phenol (ppb)	
_____ Silver		
_____ Zinc		

Results in mg/l unless otherwise noted.

Transported by: _____

Received by: _____

Transported by: _____

Received by: _____

FOR LAB USE ONLY

Lab Number: A10470 Rec'd by: [illegible]

Date sample rec'd: SEP 13 1974 Time: 3:00

Date analysis completed: 9/25/74

Date results forwarded: SEP 27 1974

Total Tests requested: 8 Tests run: 8

Lab Section: _____ Supervisor: [illegible]

3/73